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ABSTRACT

This building trades course, one of a series of bilingual English-Spanish vocational education courses, is designed to introduce the basic skills that a student must know in the construction field. It is geared to teach the student basic manipulative skills, safety judgments, proper work habits, desirable attitudes, and proper behavior for initial employment in the construction field. The course covers an introduction to good shop organization and practices, foundations, floor framing, wall framing, roof framing, special framing, exterior trim, interior trim, painting and decorating, and the construction business, providing handouts and transparency masters with narrative for these topics. The course also contains a detailed sample lesson plan on vocabulary for construction workers as a model for teachers to develop lessons for the course and an extensive English/Spanish vocabulary list. Suggested books and films for teacher or classroom use complete the packet. (KC)

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ED234206

BILINGUAL VOCATIONAL INSTRUCTIONAL MATERIALS

CONSTRUCTION TRADE COURSE



Developed through:
The Department of Occupational Education
Southwest Texas State University
San Marcos, Texas 78666

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CONSTRUCTION TRADE COURSE

Course Description

This course is designed to introduce vocational skills that a student must know in the area of building trades. The student will develop basic manipulative skills, safety judgments, proper work habits, desirable attitudes and appreciations for initial employment in the construction trade field.

Course Objectives

The student will be able to:

1. Perform the basic manipulative skills involved in the occupation.
2. Make application and use of technical and related occupational information to assure sound judgments, decisions and proper procedures involved in the occupation.
3. Appreciate and respect the employer-employee relationship, and have an awareness of the necessity of delivering worthy service for value received.
4. Develop a sense of personal integrity and confidence.
5. Practice those qualities of citizenship which will lead the way toward happy and productive life.
6. Gain employment in the occupation for which training was given.

Course Outline

- A. Introduction to good shop organization and practices.
 1. Shop Organization and Management
 2. General Safety
- B. Foundations
 1. Building Site
 2. Concrete Forms
 3. Termite and Decay Protection
 4. Moisture Protection
 5. Reinforcement
 6. Leveling Aids

7. Concrete

C. Floor Framing

1. Sills
2. Girders
3. Floor Joists
4. Floor Openings
5. Sub-Floors

D. Wall Framing

1. Wall Plates
2. Post Construction
3. Wall Sections
4. Wall Openings
5. Wall Erection
6. Wall Bracing
7. Fire Blocks and Nailers
8. Wall Sheathing

E. Roof Framing

1. Ceiling Joints
2. Common Rafters
3. Gable End Frame
4. Hip Rafters
5. Valley Rafters
6. Hips and Valleys
7. Roof Bracing
8. Roof Sheathing

F. Special Framing

1. Scaffolds/Ladders
 2. Dormers
 3. Bays and Overhangs
 4. Stairs
- G. Exterior Trim
1. Roofing
 2. Cornices
 3. Windows
 4. Doors
 5. Siding
- H. Interior Trim
1. Insulation (Thermal)
 2. Insulation (Acoustical)
 3. Drywall Construction
 4. Wall Panels
 5. Finish Flooring
 6. Cabinets and Built-ins
 7. Base, Ceiling, and Wall Molding
- I. Painting and Decorating
1. Interior
 2. Exterior
- J. The Construction Business
1. Free Enterprise
 2. Management Technology
 3. Production Technology
 4. Personnel Technology

Reference

Building Trades, Suggested Basic Course Outline, Course Guide: Vocational Instructional Services, Vocational Industrial Education, Texas A&M University, College Station, Texas 77843.

Introduction to Sample Lesson Plan

At first view of this sample lesson plan, the teacher may feel overwhelmed at the amount of material included. Certainly the material provided cannot be taught in one day. No effort has been made to divide the material into more than three class periods, but it is understood that the teacher will make his/her own adaptations as to both amount of material and time element.

There may be some objection that too much material is presented at one time so that it cannot be mastered as thoroughly in one day as a more limited vocabulary might be. However, given the general consideration that concrete words are the easiest to learn--names of objects, numbers and colors, for example, the difficulty arises with using these words in sentences. For this reason, words are generally taught in context. In implementing the Sample Lesson Plan format, it is recommended that not more than twenty new vocabulary words are introduced in a given class period. The philosophy behind the suggested method of presentation takes into account several considerations.

- (1) It is presumed that the student has already had some exposure to the target language and can handle common usages with some degree of confidence. Therefore more time may be devoted to the new, technical aspects.
- (2) As the student moves into an area of technical vocabulary, he/she needs to practice the new lexical items in situations related to the career area. A more extensive vocabulary divided into several categories provides for more complete responses in relatively normal situations. This means that instead of learning perfectly a limited number words in a given day, the student will require more class periods to absorb and use freely the larger number of words and expressions.

- (3) It is felt that learning is more meaningful if particular lexical items are absorbed within a general context rather than learned in isolated lists. For that reason, questions and discussions require responses that may seem beyond the ability of the student. In view of the requirements of some of the exercises, it is recommended that on the first day, and perhaps even on the second, the student be allowed to have his/her vocabulary list in sight so that he may refer to it as needed to form adequate responses. In this way, he/she will develop confidence in putting to practical use the specific items to be learned and he will add to his knowledge spontaneously by absorbing other words and expressions appropriate to the situation but not given the official vocabulary.
- (4) Some students undoubtedly will not know all words included in some of the questions. The teacher should accept requests for meanings or explanations when made in acceptable form in the target language. (English: What does _____ mean?; Spanish: "¿Que significa _____"? or "¿Cómo se dice _____ en inglés?").
- (5) Teachers and instructors should keep in mind the five components of a bilingual/vocational program:
 - (a) Instruction should be given in two languages.
 - (b) Materials must be in two languages (avoid text books).
 - (c) Instruction is based upon two cultures.
 - (d) Students must have the opportunity to learn two languages. (Learn original concept in native language and reinforce in English or vice versa.)
 - (e) The vocational teacher(s) and the English as a Second Language (ESL) teacher(s) must work as a team.

Because of the complexity of the bilingual phenomenon, bilingual programs require certain testing needs, therefore the following factors must also be taken into consideration when evaluating a student in a bilingual class.

- (1) Frequently, bilinguals prefer one language over the other in specific domains. These domains may be the home, the neighborhood and school for children, and for older speakers other areas such as religion, music, sports and hobbies.

- (2) Bilinguals may not be equally competent in the skills areas of listening, speaking, reading, and writing.
- (3) Bilinguals may have limited levels of formality in one or both languages. For example, a worker who has learned the second language by talking to co-workers will have an informal style and may be uncomfortable in a formal situation.

For the Sample Lesson Plan in this unit, three types of measuring devices are suggested: Word-naming, Picture Cues and Picture Description.

- (1) Word-naming usually covers several domains, and is administered in two languages. A comparison of the results allows the teacher to determine overall language dominance and to note whether this dominance varies from home, school and/or neighborhood.
- (2) In using Picture Cues, the student is asked questions about cartoons or pictures, first in one language and then in the other. The questions may be arranged so as to elicit a specific item. An analysis of the result reveals the degree of the student's proficiency in both languages.
- (3) With Picture Description the student is shown a picture or series of pictures showing activities in familiar settings and is asked to describe, in his or her words, what is happening in the picture, first in one language and then in the other. A comparison of the two samples will show whether one language is dominant.

At the end of each lesson additional areas within the career field are suggested. It is hoped that the teacher will prepare in-depth presentations of those areas and of others he/she may seem important, using the sample lesson as a springboard to his/her own ingenuity and innovativeness. Good luck! ¡Buena suerte!

SAMPLE LESSON PLAN: CONSTRUCTION TRADE

OBJECTIVE: The student will be able to identify and pronounce twenty technical terms in English (or in Spanish, if needed) as a result of oral vocabulary drills and will be able to transfer these terms to real life situations if instruction is based on the concurrent teaching of the vocational vocabulary and vocational skills.

CONTENT:

TOOLS/HERRAMIENTAS

hammer - el martillo
drill - el taladro
elec. drill - el taladro eléctrico
screwdriver - (el desarmador), el destornillador
saw - el serrucho
elec. saw - el serrucho eléctrico
pliers - las tenazas
wrench - la llave de tuerca
adjustable wrench - la llave ajustable
plane - el cepillo

MATERIALS/MATERIALES

board - la tabla
board, beam - el barrote
sheetrock - el cartón de yeso
nail - el clavo
nut - la tuerca
wire - el alambre
screw - el tornillo

VERBS/VERBOS

to take, hold - agarrar
to adjust - ajustar
to tighten - apretar
to plane - cepillar
to "do" - servir: Will it do? (sirve?)
It won't do. (no
sirve)
to connect - conectar
to drill - taladrar
to nail - clavar
to measure - medir

RELATED WORDS/PALABRAS ASOCIADAS

size - el tamaño
materials - los materiales
hard hat - el casco de protección
extension - la extensión
sawhorse - el caballito

PRESENTATION AND ACTIVITIES

I. Vocabulary Drill (CT-TM.1-6 and CT-HO.1-8)

A. Drill on names of tools. (1) Teacher pronounces, students repeat, seeing names.

- B. Follow the drill pattern above with names of materials.
- C. Present and drill the list of verbs, using somewhat the same procedure. (Write verbs on chalkboard or present from a list on a transparency for overhead projector.)

II. Association Drill

- A. The teacher calls out names from the list of tools. Students respond with a verb that corresponds to the given tool.
- B. Procedure is reversed. The teacher now calls out a verb and class (or individual) responds with the name of an associated tool or material.

III. Question and Answer Drill

NOTE: As these are general questions and students have had little practice, students should be allowed to have vocabulary lists before them on the first day and may give any appropriate response.

ENGLISH

1. What tools and what materials are used to put in a wall?
2. Which of the tools are electric or can be electric?
3. What tool is used to drive nails?
4. What tool is used to put in screws?
5. What tool is used to tighten nuts?
6. What tool is used to make a small hole?
7. What tool is used to shorten a board?
8. What is used to pull nails?
9. What tool is used to adjust a door that is a little bit too big?

SPANISH

1. ¿Qué herramientas y qué materiales se usan para instalar una pared?
2. ¿Cuáles de las herramientas son eléctricas o pueden ser eléctricas?
3. ¿Qué herramienta se usa para poner clavos?
4. ¿Qué herramienta se usa para poner tornillos?
5. ¿Qué herramienta se usa para apretar tuercas?
6. ¿Qué herramienta se usa para hacer un agujero pequeño?
7. ¿Qué herramienta se usa para hacer mas corta una tabla?
8. ¿Qué se usa para sacar clavos?
9. ¿Qué herramienta se usa para ajustar una puerta que está un poco grande?

- | | |
|---|---|
| 10. Is it better to have an electric drill or an ordinary drill? | 10. ¿Es mejor tener un taladro eléctrico o un taladro regular? |
| 11. What is a drill used for? | 11. ¿Para qué se usa un taladro? |
| 12. What are the sizes of the most used boards? | 12. ¿De qué tamaños son las tablas más usadas? |
| 13. What is a screwdriver used for? | 13. ¿Para qué se usa un desarmador? |
| 14. What is a wrench used for? | 14. ¿Para qué se usa una llave de tuercas? |
| 15. Is there a difference in a board and a beam (timber). What is the difference? | 15. ¿Hay una diferencia entre una tabla y un barrote? ¿Cuál es la diferencia? |

IV. Discussion Based on Transparencies

NOTE: See CT-TM. 7,8,9 and CT-HO. 9,10,11

A. Questions on CT-TM.7 and CT-HO. 9

ENGLISH

1. What tools are seen in this scene?
2. What materials are seen?
3. What size board is the carpenter using for the frame?
4. What are the two men doing with the boards?
5. What is the man doing with the board on the sawhorses?

SPANISH

1. ¿Qué herramientas se ven en esta escena?
2. ¿Qué materiales se ven?
3. ¿Qué tamaño de tabla usa el carpintero para el armazón?
4. ¿Qué hacen los dos hombres con las tablas?
5. ¿Qué hace el hombre con la tabla que está sobre los caballos?

B. Questions on CT-TM.8 and CT-HO. 10

ENGLISH

1. What tools can be seen?
2. What materials can be seen?

SPANISH

1. ¿Qué herramientas se ven?
2. ¿Qué materiales se ven?

3. What are the workmen doing?

3. ¿Qué están haciendo los trabajadores?

4. All the workmen are wearing hard hats. Why?

4. Todos los trabajadores usan cascos de protección. ¿Por qué?

C. Questions on CT-TM.9 and CT-HO. 11

ENGLISH

SPANISH

1. In this scene are we inside or outside the house?

1. En esta escena ¿estamos adentro o afuera de la casa?

2. What are the workmen doing?

2. ¿Qué están haciendo los trabajadores?

3. A man is picking up trash. Why is cleanliness necessary?

3. Un hombre está limpiando. ¿Por qué es importante la limpieza?

4. Why aren't the little pieces of board in the trash good for anything?

4. ¿Por qué no sirven los trocitos de tabla que están en la basura?

5. How long is the room?

5. ¿Qué tan largo es el cuarto?

V. Enrichment Activities (For spontaneous responses.)

A. Command Form Practice: Students use the verbs in this lesson to give orders to workmen.

EXAMPLES:

ENGLISH

SPANISH

1. John, tighten the screws.

1. Juan, apriete más los tornillos.

2. Eduardo, check the materials to see if anything is missing.

2. Eduardo, revise los materiales para ver si falta algo.

3. Chon, connect the extension please.

3. Chon, conecta la extensión, por favor.

B. Practice with Questions. The student is a workman. He asks his boss for information, for help, or for instructions.

EXAMPLES:

ENGLISH

1. Will this board do here?
2. What size screw should I use?
3. Should I drill before putting in the screws?
4. Will you show me how to install the windows?

SPANISH

1. ¿Sirve esta tabla aquí?
2. ¿Qué tamaño de tornillo debo usar?
3. ¿Debo taladrar antes de poner los tornillos?
4. ¿Quiere usted enseñarme cómo instalar las ventanas?

VI. Suggestions:

Other areas that should be covered in depth:

- A. Additional tools
- B. Additional types of materials
- C. Instructions for particular operations

VII. Instructional Materials

A. Transparencies

- CT - TM.1 Tools
- CT - TM.2 Herramientas
- CT - TM.3 Materials
- CT - TM.4 Materiales
- CT - TM.5 Activities
- CT - TM.6 Actividades
- CT - TM.7 Scene I/Escena I
- CT - TM.8 Scene II/Escena II
- CT - TM.9 Scene III/Escena III
- CT - TM. 10 For Testing: Word-naming
- CT - TM. 11 For Testing: Word-naming
- CT - TM. 12 For Testing: Picture cues
- CT - TM. 13 For Testing: Picture description
- CT - TM. 14 What to do in case of fire.
- CT - TM. 15 Qué hacer en caso de incendio.

CT - TM. 16 Safety hazards/Peligros
CT - TM. 17 Safety hazards/Peligros
CT - TM. 18 Tools
CT - TM. 19 Herramientas
CT - TM. 20 Tools
CT - TM. 21 Herramientas
CT - TM. 22 Materials
CT - TM. 23 Materiales
CT - TM. 24 Materials
CT - TM. 25 Materiales

B. Handouts

CT - HO. 1 Vocabulary list (English/Spanish)
CT - HO. 2 Vocabulary list (English/Spanish)
CT - HO. 3 Tools
CT - HO. 4 Herramientas
CT - HO. 5 Materials
CT - HO. 6 Materiales
CT - HO. 7 Activities
CT - HO. 8 Actividades
CT - HO. 9 Scene I/Escena I
CT - HO. 10 Scene II/Escena II
CT - HO. 11 Scene III/Escena III
CT - HO. 12 How to work a fire extinguisher
CT - HO. 13 Como usar un extintor de incendio
CT - HO. 14 Safety Hazards/Peligros
CT - HO. 15 Safety Hazards/Peligros
CT - HO. 16 Tools
CT - HO. 17 Herramientas
CT - HO. 18 Tools
CT - HO. 19 Herramientas
CT - HO. 20 Materials
CT - HO. 21 Materiales

VOCABULARY/VOCABULARIO

TOOLS

HAMMER
 DRILL
 ELECTRIC DRILL
 SCREWDRIVER

 SAW
 ELECTRIC SAW
 PLIERS
 WRENCH
 ADJUSTABLE WRENCH
 PLAN

MATERIAL

BOARD
 BOARD, BEAM
 SHEETROCK
 NAIL
 WIRE
 SCREW

HERRAMINETAS

EL MARTILLO
 EL TALADRO
 EL TALADRO ELECTRICO
 EL DESARMADOR,
 EL DESTORNILLADOR
 EL SERRUCHO
 EL SERRUCHO ELECTRICO
 LAS TENAZAS
 LA LLAVE DE TUERCA
 LA LLAVE AJUSTABLE
 EL CEPILLO

MATERIALES

LA TABLA
 EL BARROTE
 EL CARTON DE YESO
 EL CLAVO
 EL ALAMBRE
 EL TORNILLO

VOCABULARY/VOCABULARIO

VERBS

TO TAKE HOLD
TO ADJUST
TO TIGHTEN
TO PLANE
TO "DO"

TO CONNECT
TO DRILL
TO CHECK
TO NAIL
TO MEASURE

RELATED WORDS

SIZE
MATERIALS
HARD HAT
EXTENSION
SAWHORSE

VERBOS

AGARRAR
AJUSTAR
APRETAR
CEPILLAR
SERVIR: WILL IT DO?
(SIRVE?)
IT WON'T DO. (NO SIRVE)
CONECTAR
TALADRAR
REVISAR
CLAVAR
MEDIR

PALABRAS RELACIONADAS

EL TAMAÑO
LOS MATERIALES
EL CASCO DE PROTECCION
LA EXTENSION
EL CABALLITO

TOOLS

CT-HO.3



hammer



drill



screwdriver



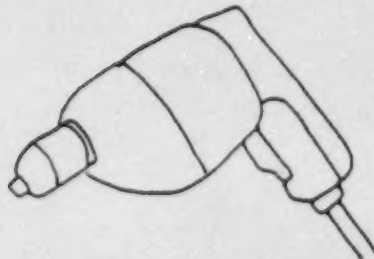
pliers



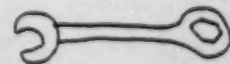
saw



adjustable wrench



electric drill



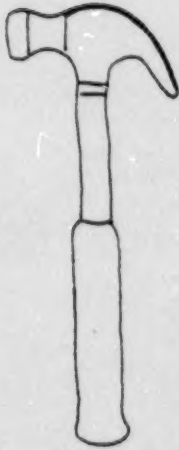
wrench



electric saw

HERRAMINETAS

CT-HQ.4



el martillo



el taladro



el desarmador



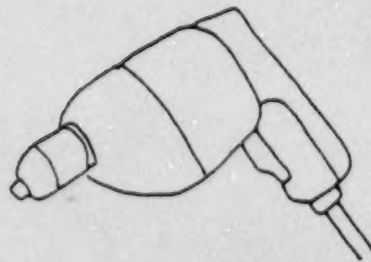
las tenazas



el serrucho



la llave ajustable



el taladro eléctrico



la llave de tuerca



el serrucho eléctrico

MATERIALS

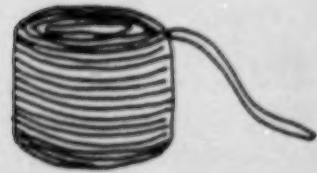
CT-HO.5



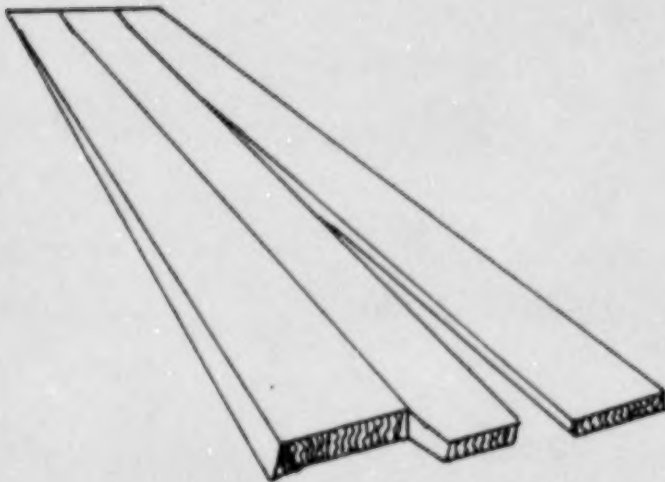
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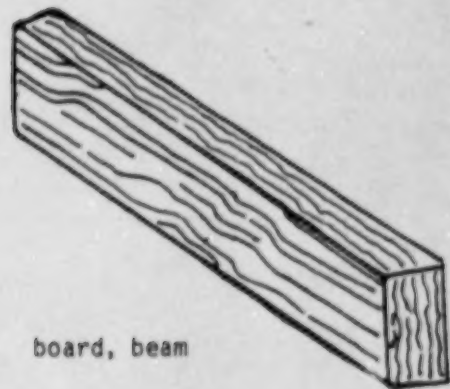
screw



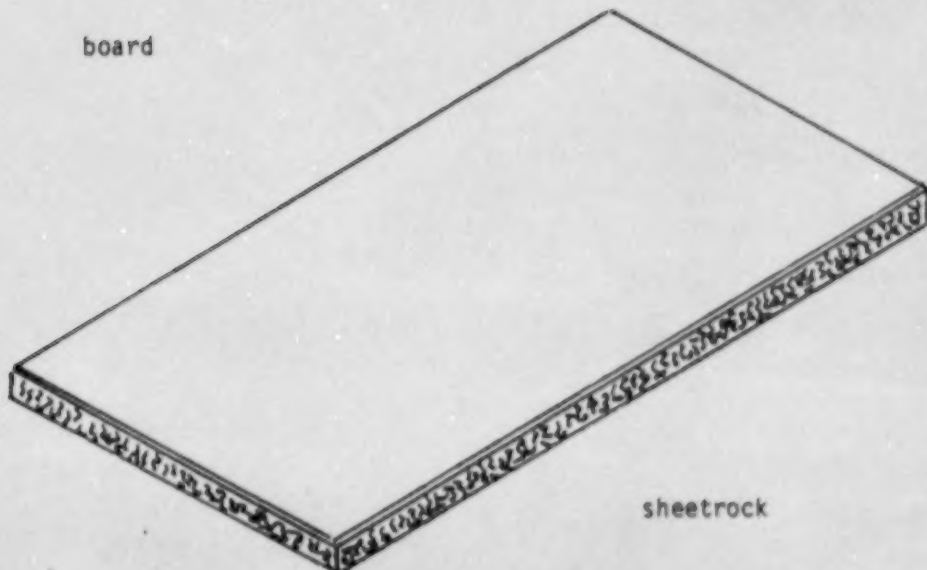
wire



board



board, beam



sheetrock

MATERIALES

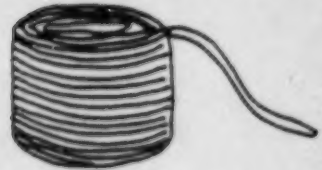
CT-HQ.6



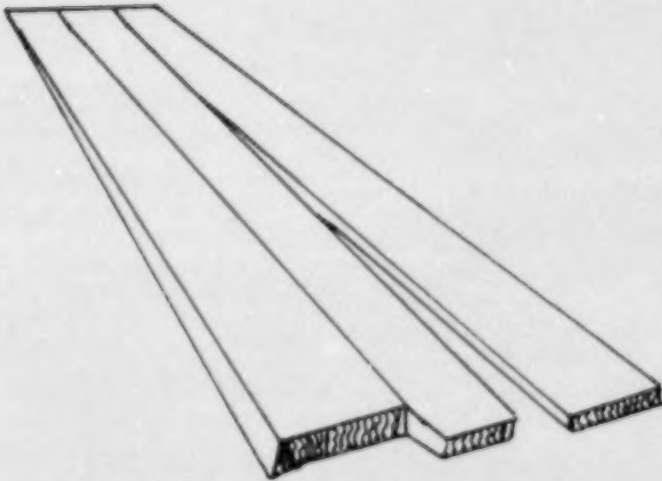
el clavo



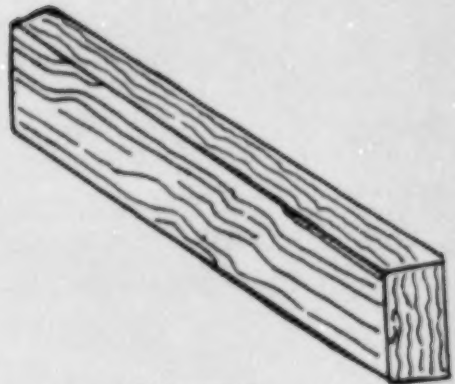
el tornillo



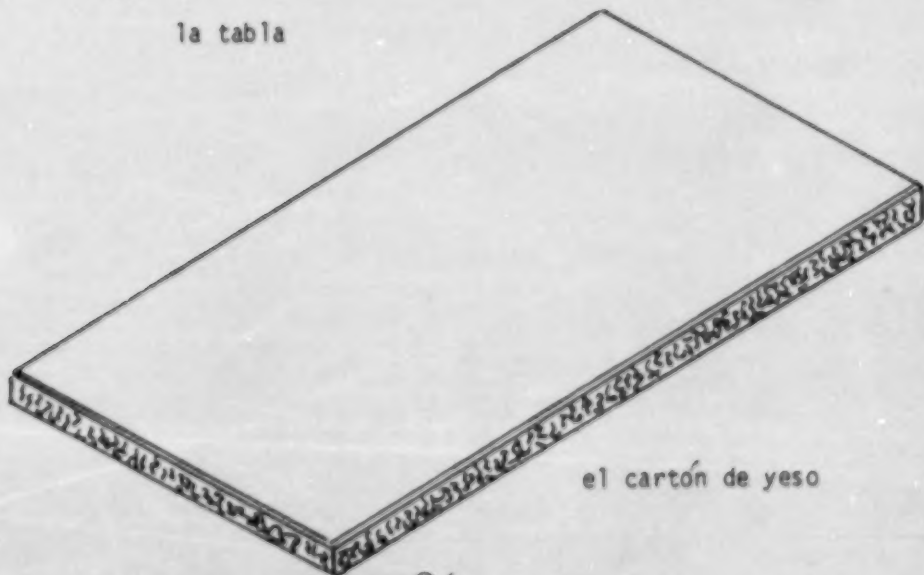
el alambre



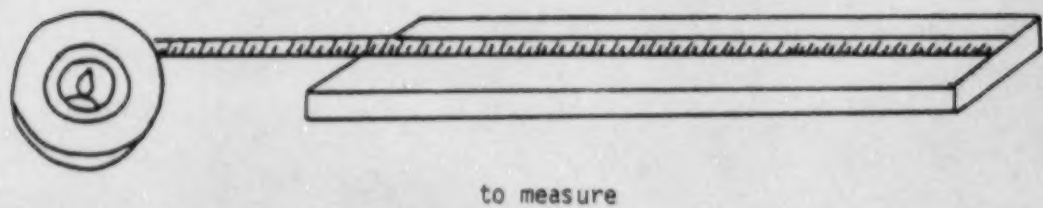
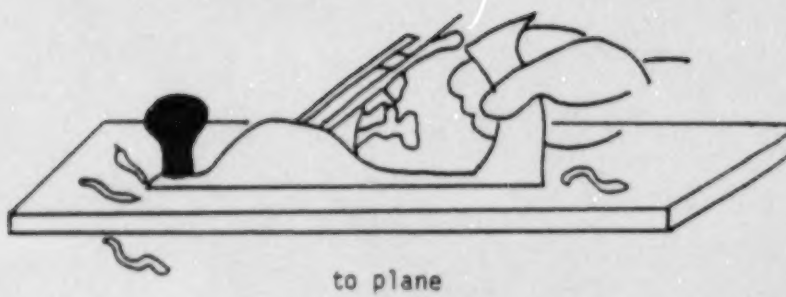
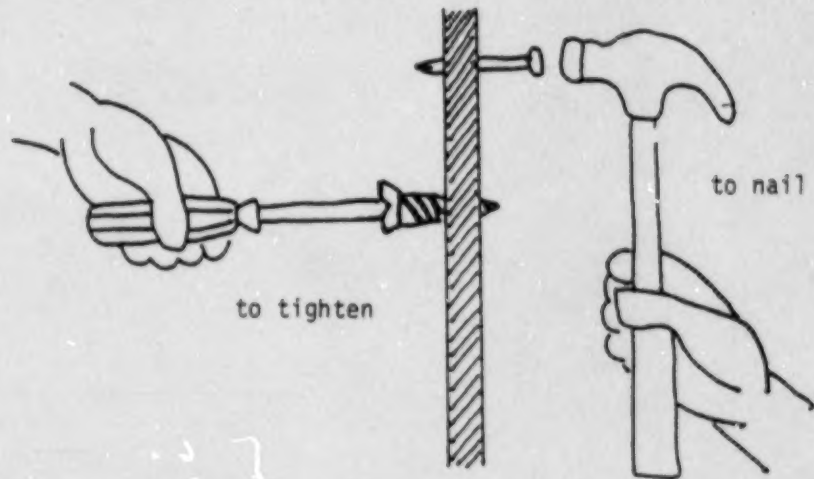
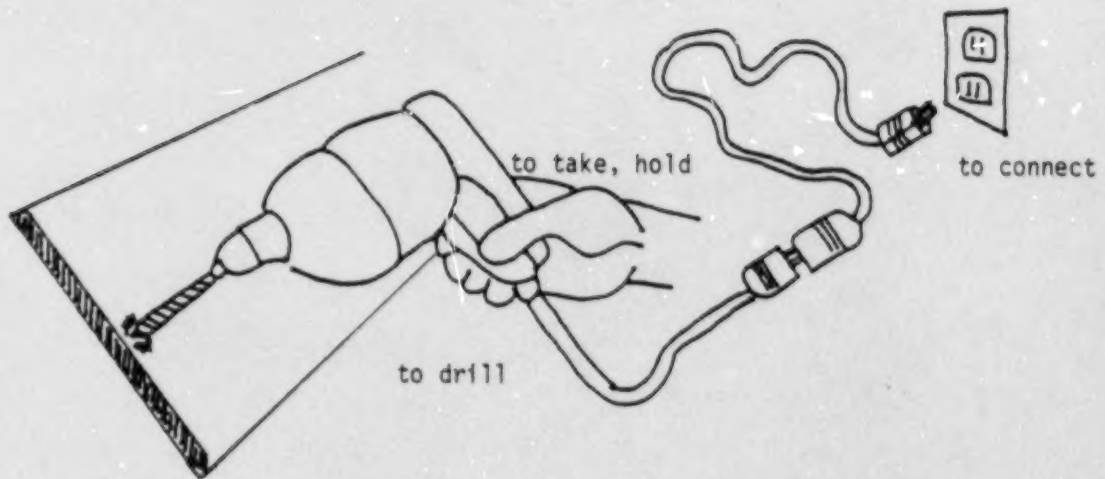
la tabla

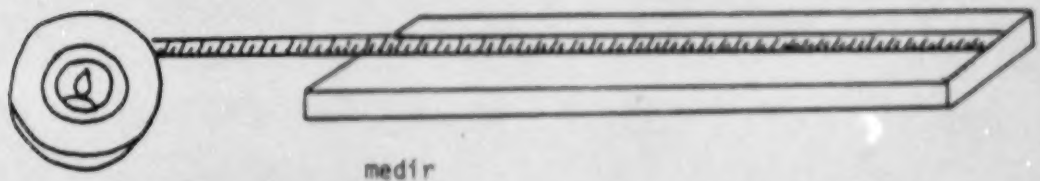
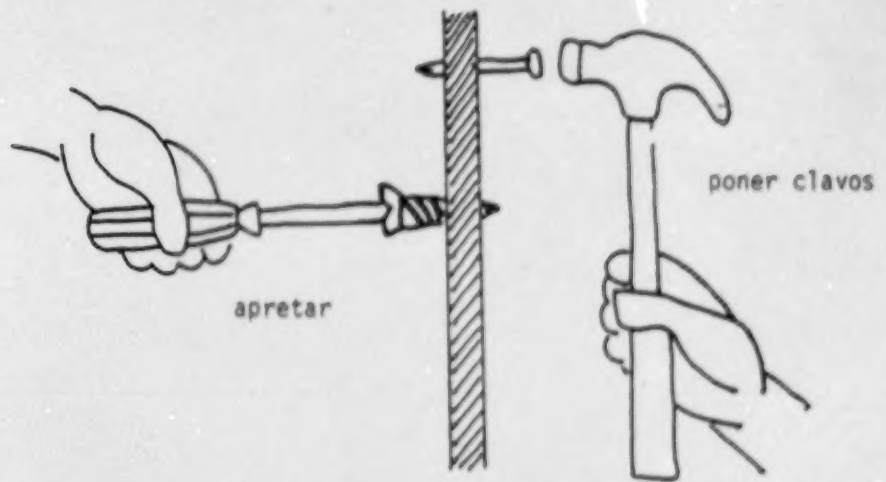
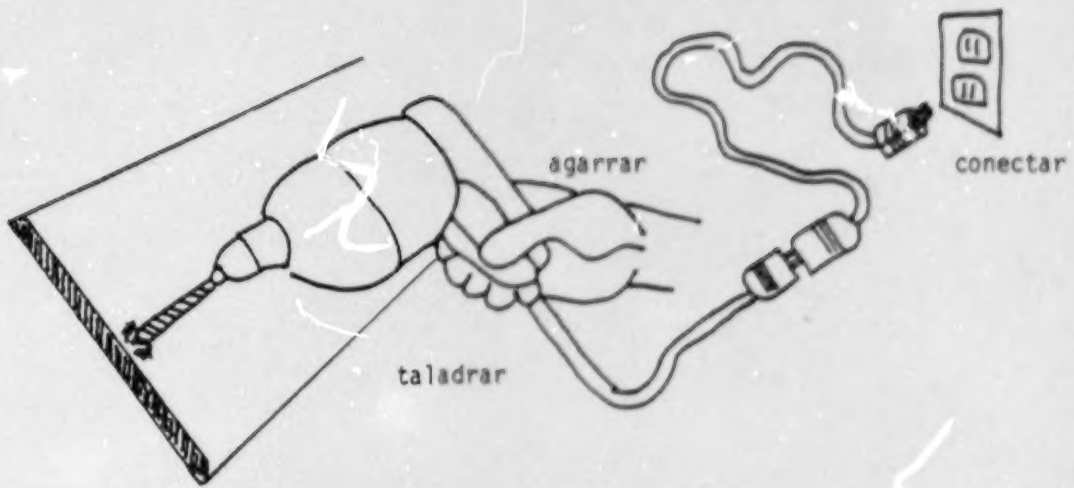


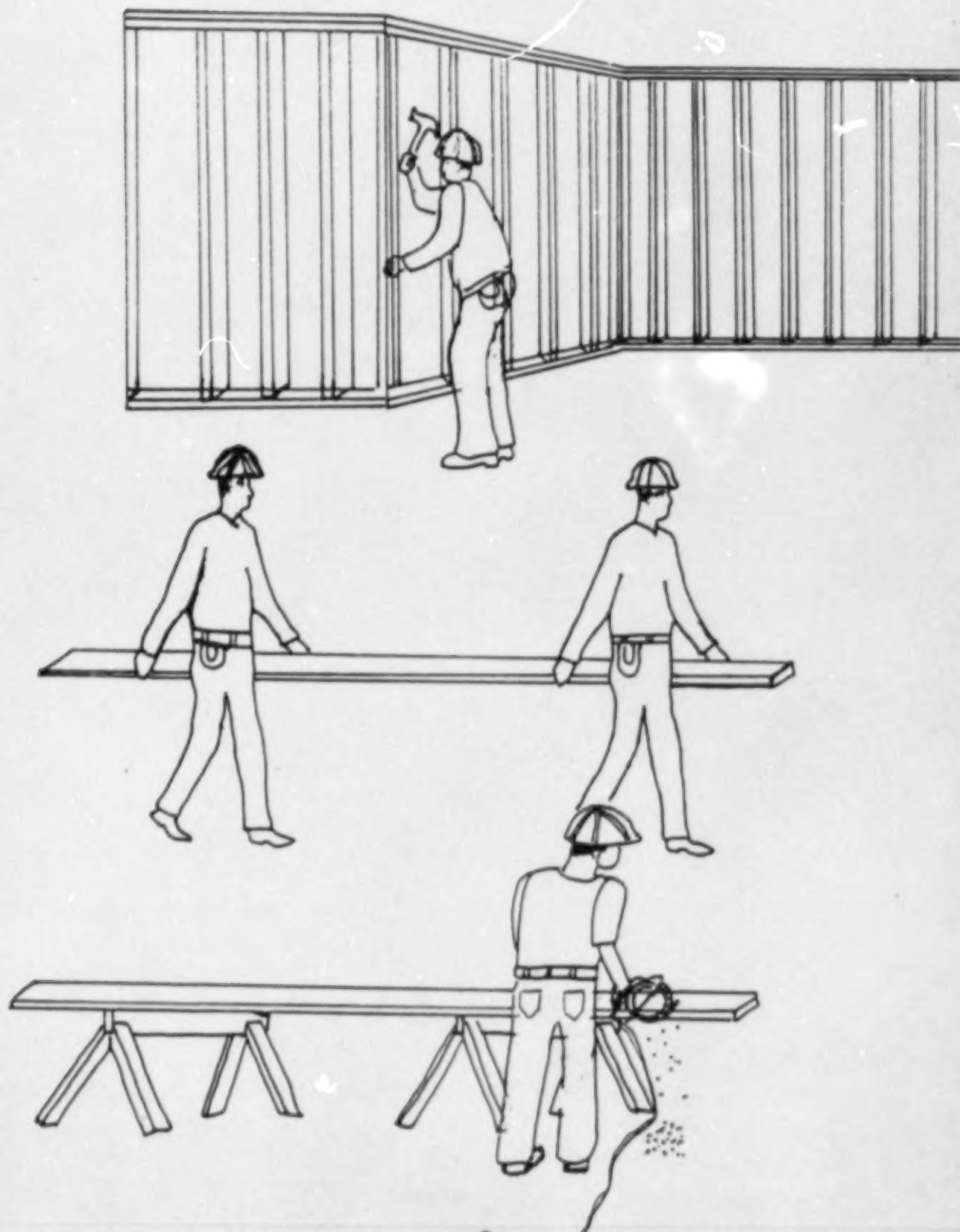
el barrote

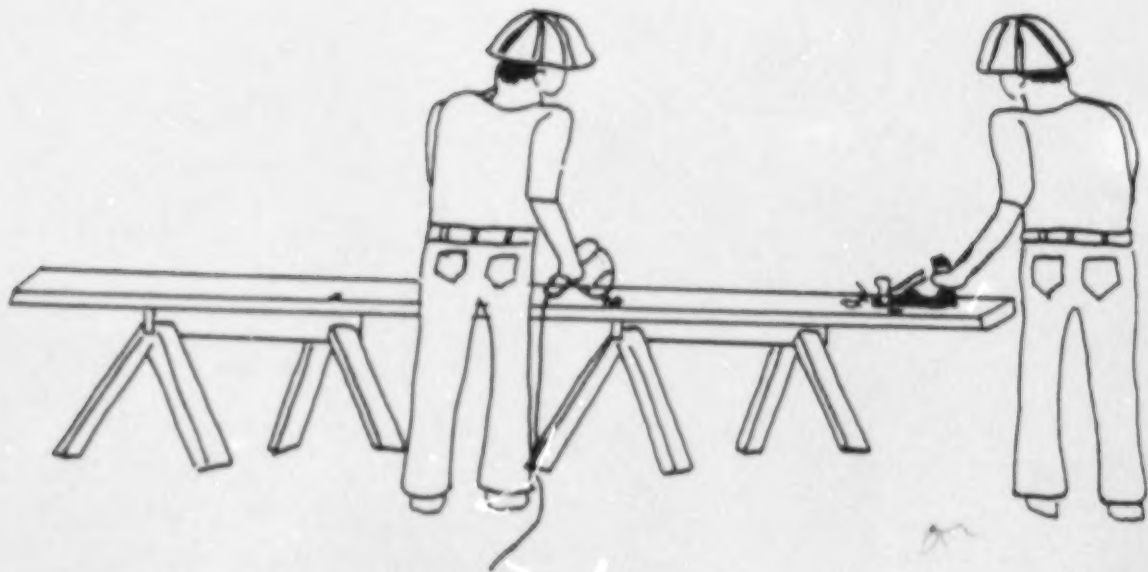
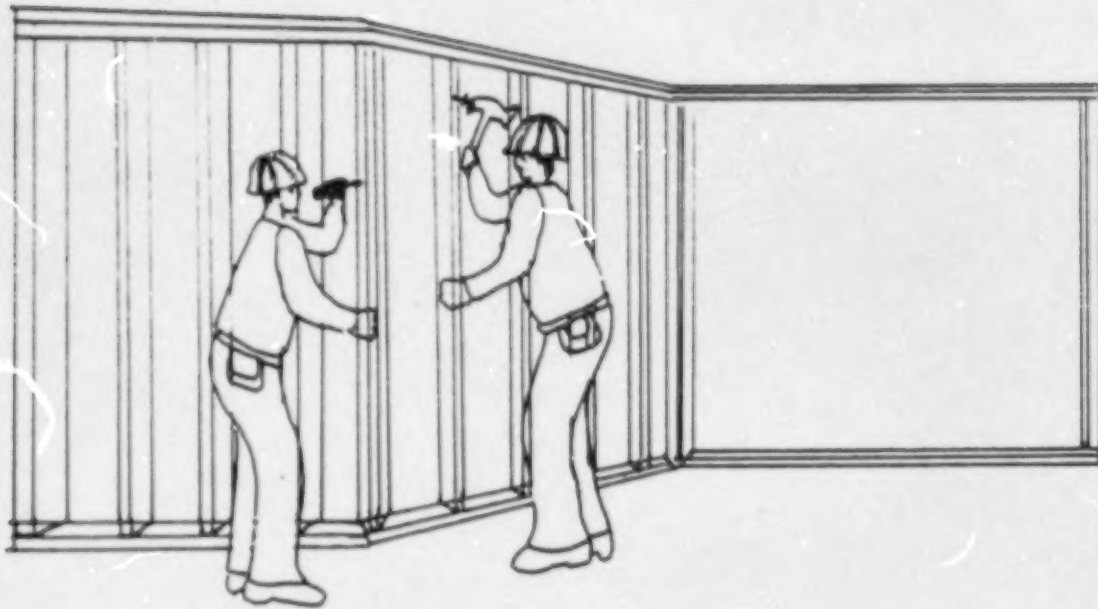


el cartón de yeso









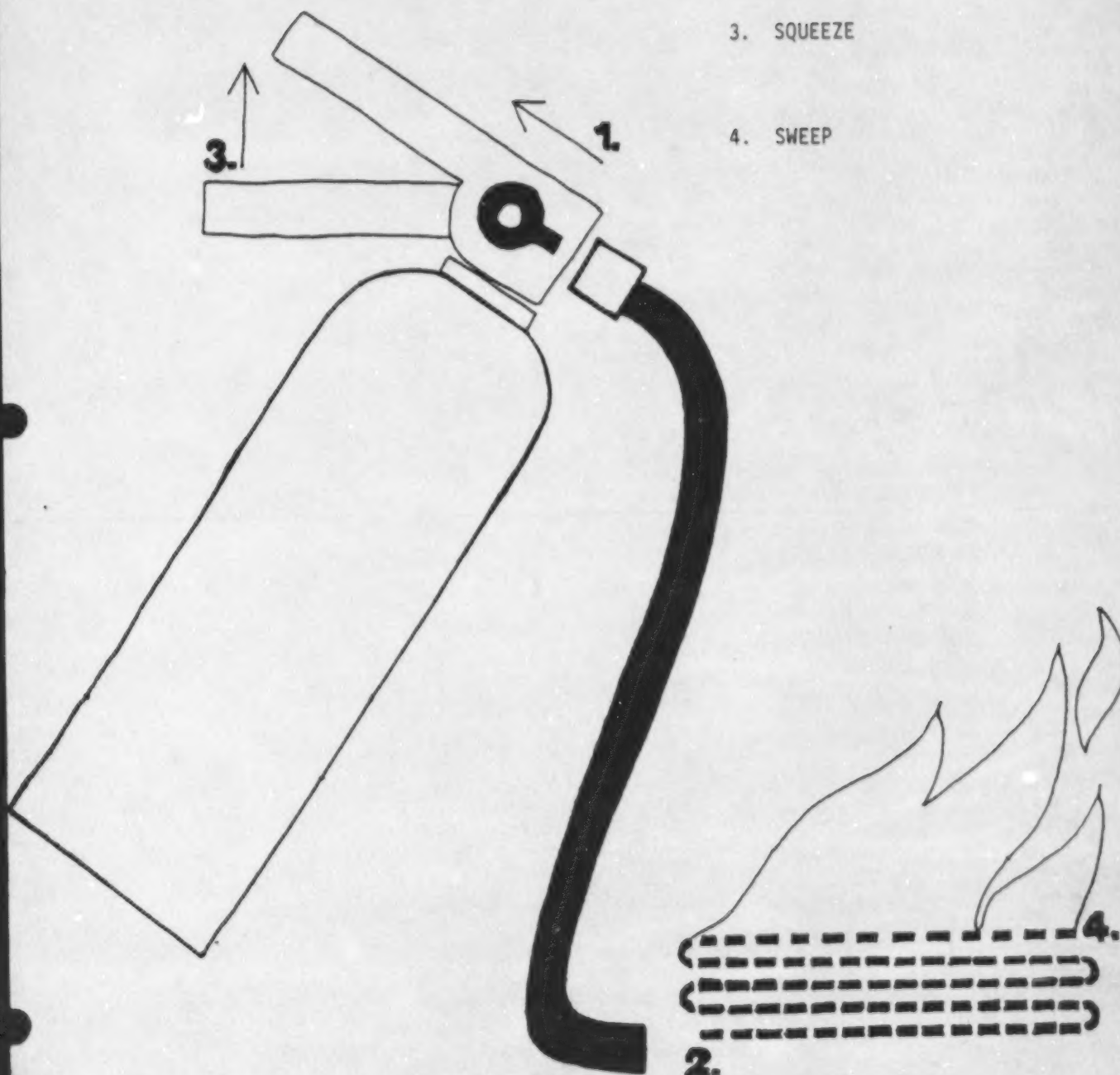


1. PULL

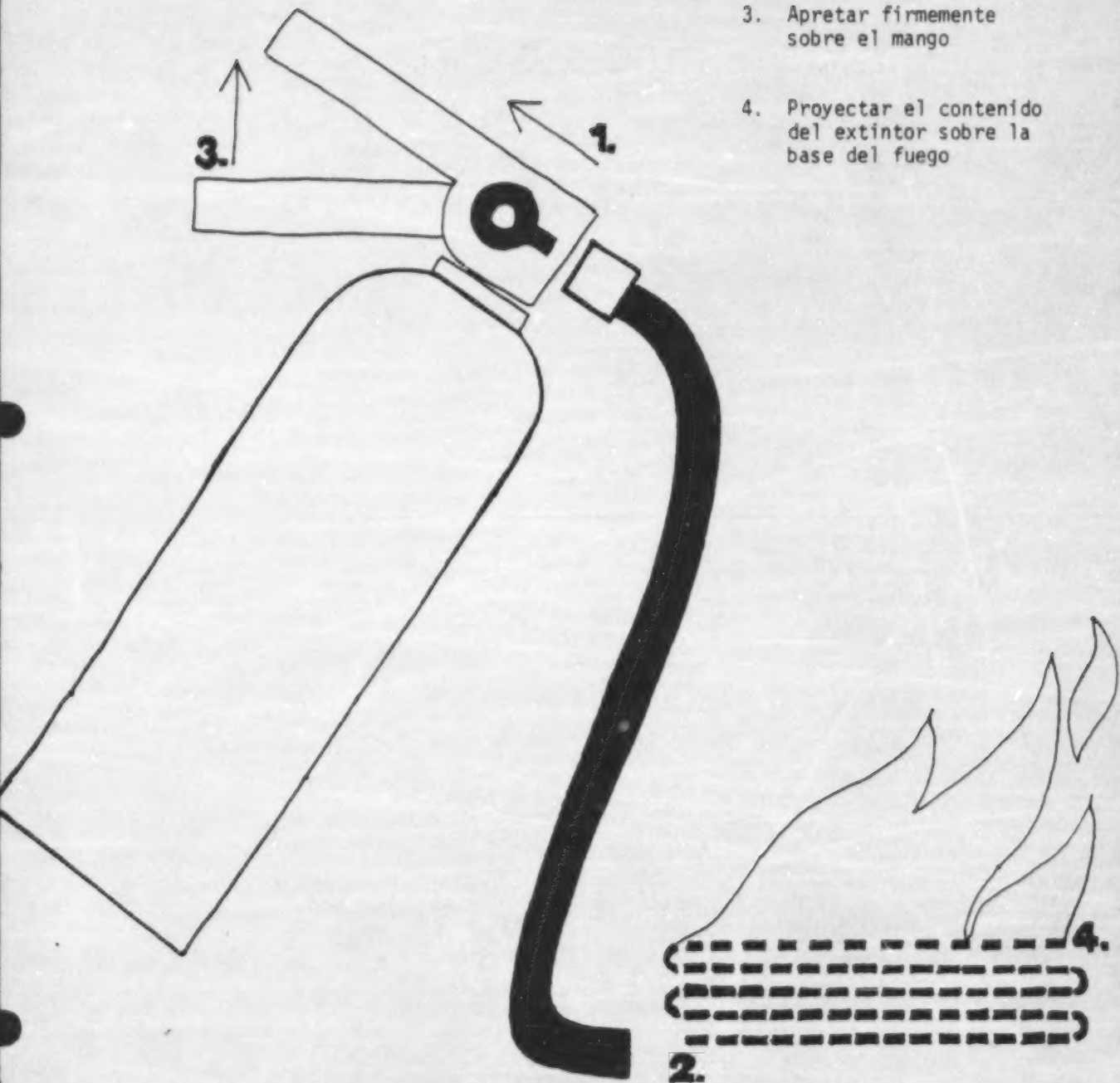
2. AIM

3. SQUEEZE

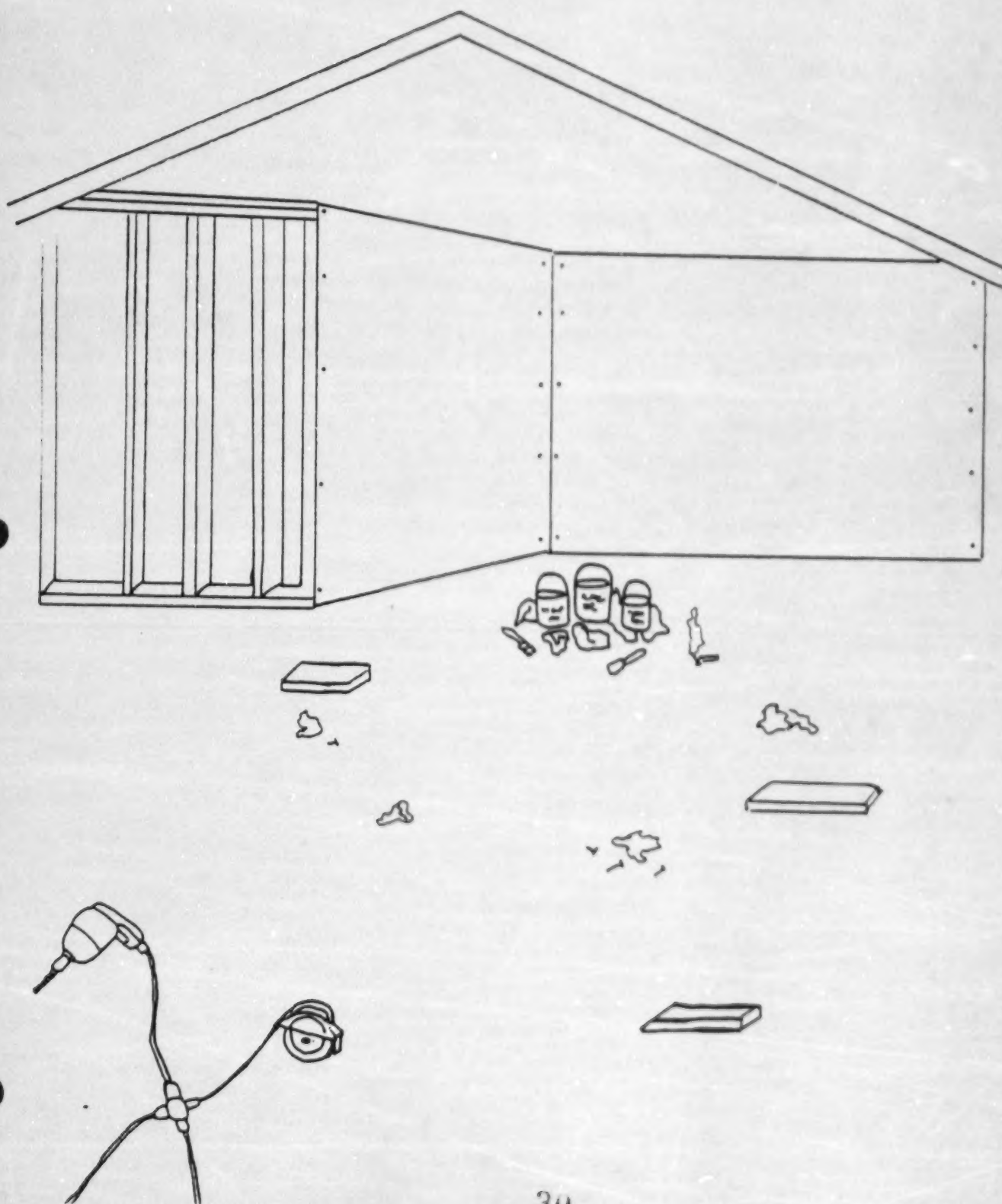
4. SWEEP



1. Tirar sobre la palanca
2. Dirigir el extintor hacia el incendio
3. Apretar firmemente sobre el mango
4. Proyectar el contenido del extintor sobre la base del fuego

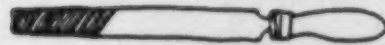








pocket tape



file



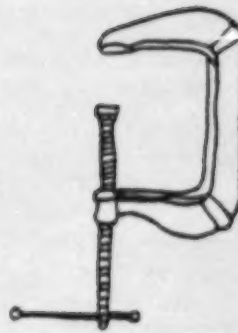
steel tape



chisel



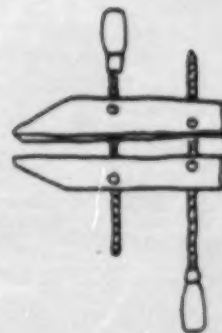
pipe wrench



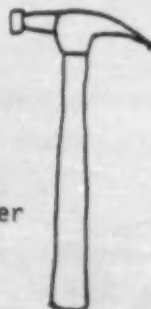
C-clamp



socket wrench



wooden clamp



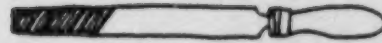
claw hammer



ball-peen
hammer



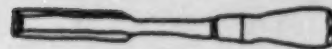
la cinta de bolsa



la fila para madera



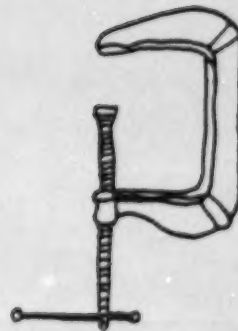
la cinta de hierro



el cincel para madera



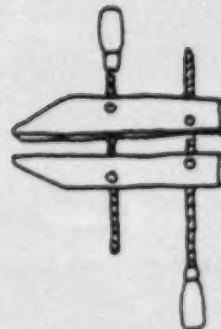
la llave de tuerca



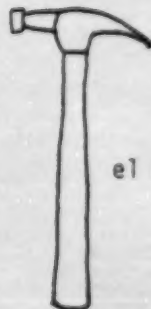
la grapa C



la llave de tubo



la grapa para madera



el martillo para desgarrar



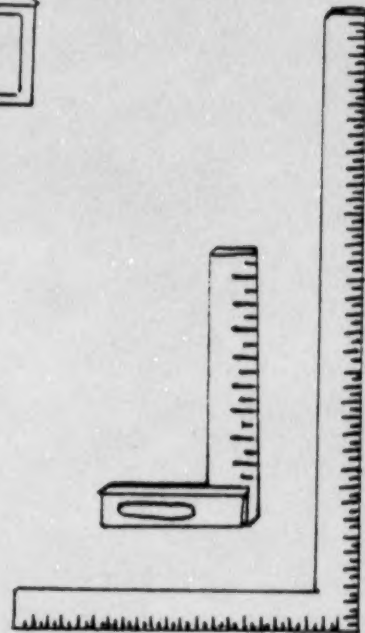
el martillo de boca



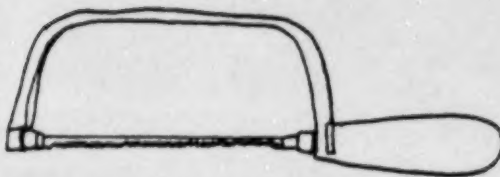
level



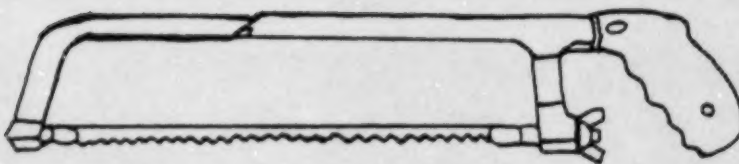
plane



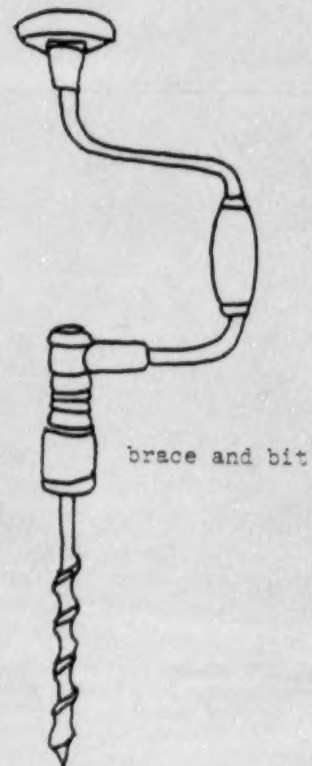
squares



coping saw



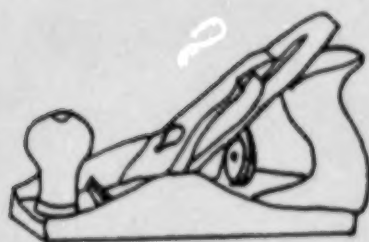
hack saw



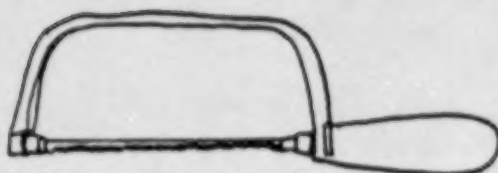
brace and bit



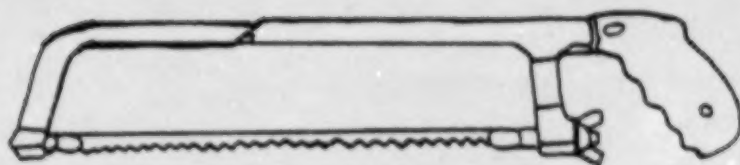
el nivel



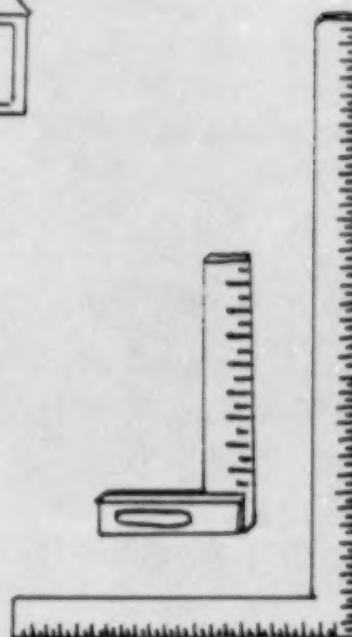
el cepillo



serrucho de albardilla



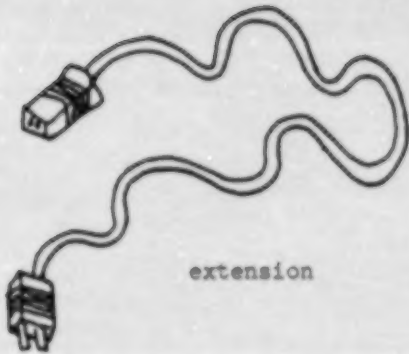
serrucho de acuchillar



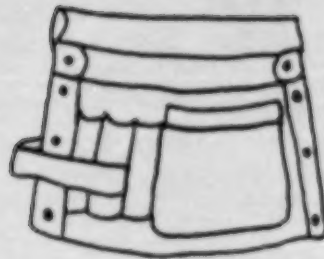
las escuadras



el berbiquí



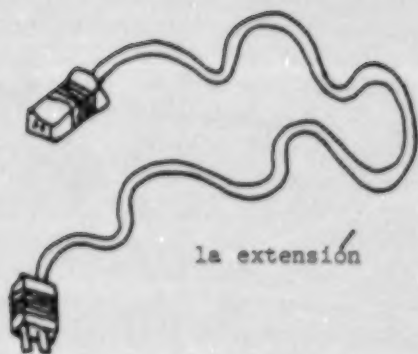
extension



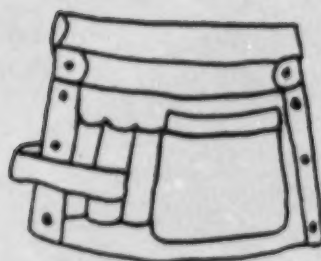
nail bag



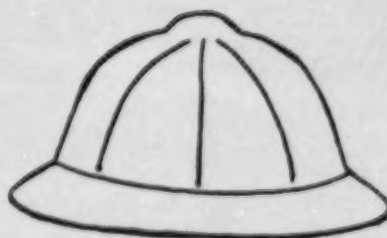
hard hat



la extensión



bolsa para los clavos



el casco de protección

C. Suggestions for Unit Test (Ten minute quizzes)

1. Word-naming (CT-TM. 10)

A comparison of the results allows the teacher to determine overall language dominance and to note whether this dominance varies from domain to domain.

ENGLISH

Suppose that this is your house.

- a. Tell me all of the tools you can see. (pause)
electric drill, saw, plane.

- b. Now tell me all of the materials you can see. (pause)
board, wire, sheetrock.

Look at this picture. (CT-TM. 11)

- a. Tell me all of the tools you can see. (pause)
pliers, screwdriver, drill, hammer.

- b. Now tell me all of the materials you can see. (pause)
screw, nail, nut.

2. Picture Cues (CT-TM. 12)

An analysis of the result reveals the degree of the student's proficiency in both languages.

ENGLISH

- a. Tell me, what does the sheetrock need? (pause)
It needs to be nailed.
- b. Tell me, what is this? (pause)
sawhorse, hardhat, wire, hammer.
- c. What does this board need? (pause) It needs to be measured.

SPANISH

Supongamos que esta es tu casa.

- a. Dime todas las herramientas que ves. (pausa)
el taladro eléctrico, el serrucho, el cepillo.

- b. Ahora, dime todos los materiales que ves. (pausa)
la tabla, el alambre, el cartón de yeso.

Mira este retrato (esta figura, este dibujo).

- a. Dime todas las herramientas que ves. (pausa)
las tenazas, el desarmador, el taladro, el martillo.

- b. Ahora, dime todos los materiales que ves. (pausa)
el tornillo, el clavo, la tuerca.

SPANISH

- a. Dime, ¿qué necesita el cartón de yeso?
Necesita clavarse.
- b. Dime, ¿qué es esto? (pausa)
el caballito, el casco de protección, el alambre, el martillo.
- c. ¿Qué necesita esta tabla? (pausa) Necesita medirse.

3. Picture Descriptions (CT-TM.13)

A comparison of the two samples will show whether one language is dominant.

ENGLISH

- a. Tell me, what is the boss doing?
Checking
Connecting
Adjusting
- b. Tell me, what is the worker doing? (pause)
She is tightening the screw.
He is sawing the board.

SPANISH

- a. Dime, ¿Qué está haciendo el jefe?
Revisando
Conectando
Ajustando
- b. Dime, ¿qué está haciendo el trabajador? (pausa)
Está apretando el tornillo.
Está serrchando la tabla.

VOCABULARY FOR CONSTRUCTION TRADE

ENGLISH	STANDARD	NON-STANDARD
ajust	tr. v. ajustar, arreglar, componer	
apartment	el apartamento, el departamento	
bathroom	el cuarto de baño, el baño	el excusado
bathtub	la bañera, el baño, la tina	
basement	el sótano, la pieza subterránea	
bit brace	el berbiquí	
bit	la broca, la barrenadora (del taladro)	
blade	la hoja (de hélice, navaja, espada, cuchillo)	
block plane	el cepillo de contrafibra	
board	la tabla, el tablero, la tablilla	
bolt	el tornillo, el perno, el pestillo (de la cerradura), el cerr-ojo, la fallera (en puertas o ventanas)	
box	la caja, el cajón	
bricklayer	el albañil, el enladrillador	
bulb	el foco, la bombilla	la luz
carpenter's apron	el delantal de carpintero	el delantar de carpintero
carpenter's tool box	la caja de herramienta de carpintero	el cajón de fierros
ceiling	el cielo raso, el techo (interior)	
cement	el cemento	
circular saw	la sierra giratoria	el serrucho

ENGLISH	STANDARD	NON-STANDARD
ceramic	el cerámico	
ceramics	la cerámica, la alfarería	
chisel	el escoplo, el formón (para labrar madera); el dínzel (para labrar piedra; el buril (del escultor)	
chuck	el portaherramienta, el mandril	
clamp	la grapa, la laña; el tornillo de presión, el tornillo de ajuste	
claw (bar)	el desclavador, el sacaclavos de horquilla, la barra sacaclavos	
claw (hammer)	el martillo de orejas	
coat (of paint)	la capa, la mano (de pintura)	
combination square	la escuadra de combinación	la escuadrita
common	común, corriente	
concrete	el hormigón	el concreto
concrete block	el bloque de hormigón	el bloque de concreto
concrete-block machine	la máquina fabricadora de bloque de hormigón	
concrete lift	la hormigonada	
concrete mixer	la mezcladora, la hormigonera	
concrete plinth	el plinto, o el orlo de hormigón	
concrete steel	el hormigón armado	
crosscut cut	la sierra tron- zadera, la sierra de traves, la sierra de tumba	

ENGLISH	STANDARD	NON-STANDARD
curved	curvo, (va), encorvado, (da) torcido, (da)	curveado, (da) curviado, (da) curvido, (da)
cut	n. el corte (de madera; tr. v. cortar	
cutting (edge)	el filo, el corte (de un cuchillo)	
cylinder	el cilindro, el rodillo	
deadlock	la cerradura dormida	la chapa
degree	el grado	
depth	la profundidad, la hondura	
door	la puerta	
drill	el taladro, la broca, la barrena	el dril
electric drill	el taladro eléctrico	el dril eléctrico
end	la punta, el cabo, la extremidad	
expansion	la expansión	
extension cord	la extensión eléctrica, el cordón eléctrico de extensión	
faucet	el grifo, la llave de agua	la pompa
fence	la cerca	
finish	tr.v. pulir, dar la última mano a, retocar; terminar, acabar	
float	la regla o tabla aplanadora, la aplanadera, la llana de enlucir	
foundation	el cimiento (de un edificio)	
framing square	la escuadra de armazón	

ENGLISH	STANDARD	NON-STANDARD
glass	el vidrio; el cristal (de la ventana)	
glue	n. la cola tr.v. pegar con cola o goma	
ground floor	la planta baja, el piso bajo	el primer piso
gypsum board	la tabla de yeso	
half hatchet	el martillo para tejar	la hachita
hammer	el martillo	
hand	la mano	la raisa, la mano- pla
hard hat	el casco de pro- tección, el yelmo protector	
header	el encabezador (herramienta u obrero)	
hinge	la bisagra, el gozne, el pernio, la charnela	
hold	tr.v. asir, em- puñar	
hole	el agujero	el abujero
insert	v.t. insertar, in-	la insulación
jackknife n.	la navaja de bol- sillo, tr.v. cortar con una navaja gran- de de bolsillo	la fila, el filero
jointer	la juntera	
joist	la vigueta, la viga, el cabio	
junk	la basura	
key	la llave	
knife	el cuchillo	
ladder	la escalera	
level	el nivel (instru- mento)	
light	la luz, la ilumi- nación	

ENGLISH	STANDARD	NON-STANDARD
linesman	el guardalíneas, el instalador de línea	
lintel	el dintel, el lintel; el umbral	
mallet	el mazo, la porra, la mandarria	
materials	los materiales	
measuring tape	la cinta de medir	
nail	el clavo	
nail puller	el sacaclavos, el arrancaclavos	pata de cabra
nail set	el punzón, el punzón para clavos	
nylon string	el cordón de nylon	
operation	la operación, el funcionamiento; el manejo, la manipulación	
paint	la pintura	la tinta
panel	el panel, el tablero (de puerta o ventana)	
panel (of a stone)	el panel de piedra	
part	la parte, la porción, la pieza	
piece	el pedazo, el cacho, el trozo, el fragmento	
pilot	la pieza quí, la gafa de herramientas	
pilot light	la llama piloto	
planning	el planeamiento, el trazado de un plan, la programación	
plaster	el yeso, el plaste, el mortero	
plate	la plancha, la lámina, la viga horizontal	
platform	la plataforma, el tablado, el anamio	
pliers	las pinzas, los alicates, las tenacillas	

ENGLISH	STANDARD	NON-STANDARD
plywood	la madera contrachapado, la madera terciada	
position	la posición	
pressure	la presión, la compresión	
rafter	el par, la alfarda	
safety glasses	los anteojos de protección	los antiojos
saw	la sierra, el serrucho, el serrote	serrucho
scaffold	el andamio, el andamiaje	
screw	el tornillo	
screwdriver	el destornillador	el desarmador, el resarmador
set	tr.v. poner; ajustar; fijar	setiar
shank	el mango, el astil	
sheetrock	el cartón de yeso	
side	el lado	
sidewalk	la acera	la banqueta
sit (building)	el sitio (para construir)	
spatula	la espátula	
speed	la velocidad, la rapidez	
square	la escuadra, el codal	
staircase	la escalera (con su armazón), la escalinata	
step	el escalon, el peldano, la grada	
stock	el mango	la agarradera, la manejera, la manijera
straight	derecho, (cha) recto, (ta)	
table	la mesa	

ENGLISH	STANDARD	NON-STANDARD
tile	la baldosa (el ladrillo del suelo: el embaldosado) y el azulejo (el ladrillo para revestir paredes)	
tin snips	las tijeras de hojalatero	
tool (s)	la herramienta, el útil, los enseres	los fierros
trowel	el palustre, la trulla (de albañil), el fratas	la cuchara
turn	tr.v. volver, haver girar, dar vuelta a (rueda, grifo, llaves, etc.)	tr.v. voltear, voltiar
water hose	la manguera, la manga	
wheelbarrow	la carretilla	
wood	la madera, el madero, el palo	
wood chisel	el formón	el cincel
work n.	el trabajo, la labor, la faena	el cameo, el jale
wrecking bar	la barra sacaclavos, la barra cuello de ganso	
wrench	la llave de tuerca	la stilson
wrench (adjustable)	la lleva ajustable	la llave de abrir y cerrar

Construction Trade

<u>Slide Number</u>	<u>Narrative</u>
1	Bilingual Vocational Instructional Materials, Construction Trade
2	Prepared by Guadalupe López-Cox at Southwest Texas State University, San Marcos, Texas
3	Funded by the Research Coordinating Unit, Department of Occupational Education and Technology, Texas Education Agency, TEA Project No. 11230096
4	Photography by Anders Photography, San Marcos, Texas
5	Narrated by Pablo Cheselka
6	The portable circular saw is one of the most commonly used tools in construction trades. It is a very dangerous tool, and one should use extreme caution when cutting construction materials. Make sure that the blade guard is operating correctly, and always roll up your sleeves.
7	The portable hand drill is used to drill holes in construction materials. The chuck key is used to tighten the jaws of the chuck around the drill bit. Before turning on the drill, always remove the chuck key, and wear goggles for eye protection.
8	The proper drill bit should be selected for the material being drilled. Twist drills, spade bits, expansive bits, auger bits, and multispur bits are commonly used for wood.
9	The framing square is commonly used to check the squareness of structural components. It can also be used to lay out staircases or rafters.
10	Many fasteners are used in the construction of a house. They are used to secure two members together. Fasteners can be divided into two general classifications: nails and screws. The most commonly used nails are finish nails, common nails, and box nails.

- 11 A building is comprised of various members. Some of the more important structural members are: headers, floor joists, ceiling joists, rafters and studs.
- 12 The level is commonly used when raising wall sections and setting forms for the foundation. It is a precision instrument and should not be abused or dropped.
- 13 All extension cords should be inspected prior to use. If they are damaged or frayed, they should be replaced. Frayed and damaged cords can be very dangerous. Also remember that the ability of the cord to carry the current is related to the wire size or guage and the capacity load.
- 14 When using electrical equipment, make sure that you do not stand in water or allow an extension cord to be in the water.
- 15 When wiring a house, solderless connectors are usually used to join wires. Screw the connector over the wires as shown and make sure that no copper wire is exposed. Remember that all solderless connectors must be enclosed in metal boxes.
- 16 In 120 volt house wiring, there are three wires. The "hot" or power-carrying wire is usually black, the neutral wire is usually white, and there is a ground wire.
- 17 In 240 volt hourse wiring there are four wires and one nuetral wire. The "hot" or colored wires are usually black and red. The neutral wire is usually white and there is a ground wire.
- 18 The black or "hot" wire should be connected to the brass-colored terminal of the receptacle. The white or neutral wire should be connected to the silver-colored terminal of the receptacle.
- 19 Circuit breakers and fuses are used in the wiring system as a protection device. They protect the circuit from overloads and short circuits.

- 20 There are three basic methods of splicing wire.
 They are tap splice, pigtail splice and western
 union splice.
- 21 In construction work there is always the possibility
 of fire. Every workman should learn the four steps
 to operate a fire extinguisher: Pull
- 22 Aim
- 23 Squeeze
- 24 Spray (Sweep)

La carpintería

<u>Slide Number</u>	<u>Narrative</u>
1	Bilingual Vocational Instructional Materials, La carpintería
2	Prepared by Guadalupe López-Cox at Southwest Texas State University, San Marcos, Texas
3	Funded by the Research Coordinating Unit, Department of Occupational Education and Technology, Texas Education Agency, TEA Project No. 11230096
4	Photography by Anders Photography, San Marcos, Texas
5	Narrated by Pablo Cheselka
6	La sierra portátil es una de las herramientas más usadas, pero es peligrosa. Por eso se debe usarla con mucho cuidado. Antes de empezar a trabajar, se debe arrollar las mangas y verificar la operación correcta de la vaina protectora.
7	El taladro de mano portátil sirve para perforar materiales usados en la carpintería. Hay una llave que ajusta los dientes del mandril alrededor de la barrena. Hay que sacar la llave antes de usar la máquina. Es una buena idea usar anteojos protectores.
8	Es necesario seleccionar la barrena según el tipo de material que uno va a perforar. He aquí varios tipos de barrenas frecuentemente usadas en la perforación de la madera.
9	La escuadra de armazón es útil para verificar los ángulos rectos de los materiales (verificar lo correcto de los ángulos). También se puede usarla al construir escaleras o al colocar los pares.
10	Los sujetadores sirven para conectar piezas usadas en al construcción. Los grupos principales son los clavos y los tornillos. Aquí se ve una selección de clavos con cabezas diferentes y también se ven tornillos de cabeza redonda y la fresada.

- 11 Se construye un edificio a base de muchos componentes diferentes. Entre los más importantes son las vigas del techo y de los muros y los pares del tejado.
- 12 Se usa el nivel al colocar las secciones de un muro y al preparar el armazón usado en la construcción del cimientó de la casa. La precisión en un nivel es esencial; así que no se puede ni dejarlo caer al suelo ni abusarlo en otra forma.
- 13 Los cordones eléctricos dañados representan un peligro. Por eso se les debe inspeccionar frecuentemente para reemplazarlos si tienen defectos. También es preciso recordar que el tamaño del alambre determinará su capacidad.
- 14 El que emplea un aparato eléctrico nunca debe colocarse sobre una superficie mojada ni permitir que el cordón eléctrico esté en el agua.
- 15 Al instalar el alambraje eléctrico en una casa, generalmente se emplean conectadores sin soldura. Se enrosca el conectador encima de los extremos de los alambres para hacer la conexión. Es necesario encerrar los conectadores sin soldura en una caja.
- 16 En una casa de voltaje de 120, hay tres alambres eléctricos - el que lleva la corriente eléctrica es generalmente negro, el neutral es generalmente blanco y hay un alambre de "tierra."
- 17 Con un voltaje de 240 voltios, se emplean cuatro alambres diferentes. Los que llevan la corriente eléctrica son de color negro y de color rojo, el alambre neutral es de color blanco, y hay un alambre de "tierra."
- 18 El alambre negro (el que lleva la corriente) se conecta al terminal de color de latón dentro de la caja. El alambre neutral (de color blanco) se conecta al terminal de color de plata.

- 19 Los disyuntores y las cajas de fusibles sirven para proteger el sistema de alambraje de los cortocircuitos y de la sobretensión.
- 20 Empalmando un alambre eléctrico. Estos empalmes se llaman en inglés el "tap", el "pigtail" y el "western union".
- 21 En la construcción siempre hay posibilidad de incendio. Todo trabajador debe saber usar el extintor. Hay que seguir estos procedimientos:
Tirar sobre el anillo
- 22 Dirigir el extintor hacia el incendio
- 23 Apretar firmemente sobre el mango
- 24 Proyectar el contenido del extintor sobre la base del fuego.

CONSTRUCTION TRADE

A. Books

National Audiovisual Center
National Archives and Records Service
General Services Administration
Order Section/RH
Washington, D.C. 20409

1. F.H.A. Minimum Property Standards #300, U.S. Dept. of Housing Development, Federal Housing Administration, Washington, D.C. 20410.
2. Feirer, John W. Woodworking for Industry; Charles A. Bennet Co., Inc., 809 Detweiler Dr., Peoria, IL 61614, Unit 46.
3. Framing, Sheathing, and Insulation, Delmar Publishers, Albany, NY 12205, Unit 6.
4. Moore, Cairl E., Delmar Publishers, Albany, N Y 12205, Concrete Form Construction.
5. Portland Cement Assoc., Concrete Technology Instructor's Guide, 100 E. 8th St., Austin, TX 78701.
6. Soundbert, E. W., Fundamentals of Carpentry, Vol. 2, American Technical Societ Chicago, IL 60637, Chs. 1 and 2
7. Wagner, Willis H. Modern Carpentry, The Goodheart - Willcox Co., South Holland, IL 60473, Unit 7.
8. White, George R., Concrete Technology, Delmar Publishers, Albany, N Y 12205.
9. The Bilingual Publication Company Specialists in Literature in Spanish, 1966 Broadway, Ney York City 10023 Phone#212-873-2067.

Working with Wood Manually

Trabajo Manual de la Madera 1
Trabajo Manual de la Madera 2 \$15.95

10. Your House

Su Casa \$8.95

Painting, Papering, and recovering walls.
Pintura, empapelado, y recubrimientos.

11. Safety

Prevention of Accidents on Construction Sites.
Prevencion de Accidentes en las contruccions. \$15.95

Gerardo Gonzalez G. Azbaleta.

12. House Repair and Construction

Plumbing
Plomeria

John G. Miller \$9.95

B. Films

1. A Chance to Be

30 minutes, color, 1977 Office of Education
16mm film No. A00671/BM Rental \$12.50 Sale \$174.00
Videocassette No. A00672/BM Sale \$100.00

Career education programs for special populations: women, minorities, the handicapped, and the gifted. The film underscores the need to broaden the career opportunities of these groups-- and the potential of career education in the achievement of this objective.

2. Boring to Close Tolerances

16mm film, 17 minutes 1943 \$56.00
Title No. 182975/JJ English Title No. 003957/JJ Spanish

Shows how to mount, adjust, finish, rough, and how to prevent Bellmount when boring.

3. Fundamentals of End Cutting Tools

16mm film, 12 minutes \$39.50
Title No. 351350/JJ English Title No. 001714/JJ Spanish

Discusses radius, threading sheer - cut finishing, round-nosed finishing and side-facing tools. Also shows the correct setting of the tools, and type of cut each makes.

4. Fundamentals of Side Cutting Tools

16mm film, 11 minutes \$36.25
Title No. 351650/JJ English Title No. 001718/JJ Spanish

Shows how side cutting tools are shaped, how they cut, and how generated heat is dissipated.

5. Grinding a Straight Hole

16mm film, 18 minutes \$59.50
Title No. 374150/JJ English Title No. 001735/JJ Spanish

Tells how to use a universal chuck, select the proper grinding wheel, adjust wheel speed, set the length of the stroke, set the cross-feed for automatic grinding, and use a precision cross-feed for finish-grinding.

6. Hand Soldering

16mm film, 20 minutes \$66.00
Title No. 379500/JJ English Title No. 001783/JJ Spanish

Explains the theory of soldering. Shows how to prepare soldering irons and torches; clean and prepare the work; fasten the joints; solder wire and lug joints; and seal seams.

7. Micrometer, The

16mm film, 15 minutes 1941 \$49.50
Title No. 520800/JJ English Title No. 002537/JJ Spanish

Explains the care, use, and maintenance of micrometers. Shows various forms used to measure outside lengths, inside lengths, and depths.

8. Milling Machine, The

16mm film, 15 minutes, b/w, 1944
Producer USOE Title No. 006438/JJ \$49.50

Explains the functions, characteristic, and basic operations of the milling machine.

9. Planing a Flat Surface

16mm film, 22 minutes
Title No. 003038/JJ English Title No. 003090/JJ Spanish \$72.50

Explains the function of a planer. Shows how to mount the work-piece; set the tool and tables for cut; make a first and second roughing cut; and make a first and second finishing cut.

10. Reading A Three-View Drawing

16mm film, 10 minutes \$33.00
Title No. 636350/JJ English Title No. 003347/JJ Spanish

Describes how to interpret and use a blueprint. Shows how to make a tool block according to specifications written on a blueprint.

11. Ripping and Crosscutting

16mm film, 19 minutes \$62.75
Title No. 649950/JJ English Title No. 003297/JJ Spanish

Shows how each working part of the variety saw functions. Demonstrates how to check saw blades, set the fence, change saw blades, use a cut off gage, and use a hinged block in cross-cutting.

12. Safety in the Shop (Spanish)

12 minutes, 16mm film, OPT. SD, B&W 1944
Producer USOE Agency No. OE-0481
Title No. 003350/RU Sale \$43.50

Dramatizes three typical shop accidents and shows how poor supervision or inadequate training may have been the real cause behind these accidents.

13. Shaper, The

16mm film, 15 minutes, b/w, 1945
Producer USOE \$49.50
Title No. 003499/JJ

Describes the functions, characteristics, and basic operations of the shaper.

14. Split - Phase Motor Principles

16mm film, 17 minutes \$56.00
Title No. 000685/JJ English Title No. 003615/JJ Spanish

Shows construction of stator and rotor, comparison of winding in two-phase stator with split-phase stator, effects of winding resistances and inductive reactances, and use of capacitor to produce phase displacement.

15. Turning Work Held on a Mandrel

16mm film, 20 minutes 1943 \$66.00
Title No. 004024/JJ Spanish

Describes the uses of the mandrel. Shows how to fit a mandrel into the workpiece; cut a bevel using the compound rest calculate speed and feed; and set the controls.

16. Visualizing an Object

16mm film, 9 minutes \$29.75
Title No. 786350/JJ English Title No. 003862/JJ Spanish

Tells how a blueprint is developed, illustrates how dimensions are shown by different views, and explains how various kinds of information are indicated on a blueprint.

17. Why Not a Woman

26 minutes, color, 1977
Employment and Training Administration, DOL
16mm film No. 010571/CD Rental \$12.50 Sale \$165.75

Entering nontraditional occupations such as welding, carpentry, and mechanics; explores the attitudes of male co-workers, supervisors, personnel managers, and teachers.

C. Slides

1. Construction Safety and Health Training Course

Slide set, 166 color slides, silent, Instructor Manual, 1973
Occupational Safety and Health Administration
Title No. 002057/BM Sale \$103.50

Analyzes all phases of construction safety from the planning to its completion. The viewer observes dangers associated with material-handling loaders, bulldozers, trucks, arc and gas welding equipment, cutting equipment, and flammable fuels and liquids. Personal protective equipment, handtools, and accessories for major powered equipment are also discussed.

2. Hazard Recognition--A Series

4 sound slide sets, color, 1977
Occupational Safety and Health Administration
Series Title No. 007519/BM Sale \$110.00

Experience isn't the best teacher--the best way to avoid accidents is to learn how to prevent them. Your life--and the lives of your employees--may depend on the kind of safety training your crew receives.

3. Trenching

Sound slide set, 20 minutes, 94 slides, 2 audiocassettes
Title No. 007516/BM Sale \$36.50

Demonstrates the causes of cave-ins, safe and unsafe shoring installations, general safety practices applicable to excavation, trenching hazards--and most important, how to prevent trenching accidents.

4. Walking and Working Surfaces

Sound slide set, 14 minutes, 88 slides 1 audiocassette

Title No. 007512/BM

Sale \$34.50

This brief multimedia course presents an important area of safety concern that's often overlooked.

5. Ladders

Sound slide set, 9 minutes, 56 slides, 2 audiocassettes

Title No. 007514/BM

Sale \$24.50

Workers on the construction site can achieve improved safety with this audiovisual course on ladders. It covers the safest angles and dimensions for fixed ladders, specific hazards associated with wood and metal ladders, proper use of cages, landing platforms, ladder safety devices, and other safety principles that, when applied, will prevent ladder accidents.

6. Scaffolds

Sound slide set, 14 minutes, 69 slides, 2 audiocassettes

Title No. 007518/BM

Sale \$28.50

Identify the maximum distributed load capacities, the support spacing, and the size and type of lumber used for various scaffolds--knowledge necessary to accident prevention. Also covered are safety requirements for the construction and use of suspended and rolling scaffolds.

8. Group programmed instruction Accident Causes

slides, color, script, Bureau of Occupational Safety 3-224, U.S. Department of Labor, Washington, D.C. 20210. Free. Borrower pays return postage (book two months in advance)

D. Safety Signs

1. Ready Made Sign Co., Inc.
12-07 44th Avenue
Long Island City, N.Y. 11101
Phone (212) 784-7000
2. World-Wide Sign Company
3171 McCall Drive
Atlanta, Georgia 30340
Phone (404) 445-3800
3. Marzetta Signs Inc.
1356 South 50th Street
Richmond, Calif. 94804
Phone (415) 234-3270

Spanish Catalog is available and Spanish-English Bilingual signs

may be obtained upon request.

4. The OSHA Comprehensive Safety Compliance System for Public School Districts, Vocational Schools, and Community Colleges.

E. Spanish Materials

1. Pequeno Larousse, Espanol-Ingles, English-Spanish
2. Pequeno Larousse, Ilustrado

DO NOT WRITE IN THESE SPACES